

yard in the background, while high on the left towers the extensive storage and feed house, to which the offal of the mill is blown by a blast through a long tube crossing the street high in air. Passing a little further on our right is Mr. Peter's store, one of the finest to be found in any inland town in the State, with its bank, its elevator, its clothing and furniture loft, and capacious cellars, all heated in winter by steam from his mills, and lighted by gas from a generator constructed for the express purpose. Passing to the north, where there looms upon our left the Marathon House, a first class hotel, built and owned also by

(Continued on eighth page.)

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Horticultural.

CULTURE OF SMALL FRUITS
IN BERRIEN COUNTY.

(A Paper Read at the Joint Meeting of the Michigan Horticulturists Society and the West Michigan Fruit Growers Society at Benton Harbor.)

The culture of small fruits in Berrien County bears a close and striking similarity to the development of the same industry, in many other localities of our country. When some of us were boys, about everybody depended upon the spontaneous productions of nature for their supply of these household luxuries. When the days grew long, and the night short, we would range the field and meadows over, in search of the few small scarlet strawberries, found here and there among the tall grass and weeds; later, the old tumble-down, moss-grown, worm fence rows, were followed for miles in search of the small seeded black raspberry, the seeds for which the birds had doubtless carried there years before, and planted in those by-places for their own gratification and subsequent supply; and later still, the burnt districts among the timber belts and many old worn-out and abandoned fields, furnished us a rich harvest of good ripe blackberries and dewberries. In addition to these, the wild red raspberry, then as now, furnished a good supply, in many sections of the county; while the mountains, the hills and the marshes yielded, as they still do, our entire supply of that fine little fruit known as the huckleberry. It is a matter of some importance for some enterprising fruit-grower to tame this bush, and make it yield a larger, better, and more abundant supply of fruit than it does in a state of nature, and also nearer home. The time required in gathering most of these wild fruits, is much greater than that necessary for cultivating them and when we take into consideration the superiority in quality, size and yield of those cultivated, over the wild types, except perhaps the huckleberry, we need not wonder that the wild types are being neglected and discarded. In the case of the cranberry, the same remarks hold true. The people of our neighborhood are somewhat like a flock of sheep, when the leader goes over the fence, the whole flock follow except some poor cripples who dare not venture.

I hope, Mr. Chairman, the good people here, will not expect me at this time, and under these peculiar circumstances, to write out a history of "Small fruit culture in Berrien County," or anywhere else. Our programme was only prepared a short time ago. And this being the season when our hosts of insect enemies are working day and night, nothing short of eternal vigilance, and long hours of labor every day, will enable us to save our crops. Again, what do these, our friends from a distance, who will remain with us for a day or two, care to know who shipped or grew the first small fruit, in this county—whether it was Jones, Brown, or Smith it is equally immaterial to them. I might take up your time in giving the names of some of our pioneer fruit-growers, in this section of the State, some of whom have laid down the shovel and the hoe, and long ere this gone to their final resting place. An outline of their work, and their success, has already been given to the public, through the efforts, and so far as I know the gratuitous labors of the painstaking and life-long horticultural student, Pres. T. T. Lyon, in the last report of the State Society, and who is with us to-day. Owing to the peculiar geographical location of Berrien County we have perhaps made greater progress in this line of industry than many other sections of this State. In the early rise and progress of fruit culture, especially the small and tender varieties, it was necessary to have speedy and convenient transportation to market. Our waterways were then the only means of reaching markets any considerable distance from the grower. The harbors and shipping points of the lake supplied the only available outlets; and the fruit centers nestled around these localities. Small fruits in those early times sold high; the demand was greater than the supply; and the value of real estate about those fruit centers rose correspondingly high. Many launched their boats, as they supposed, on the tide of great prosperity only to sink in the vortex of financial bankruptcy.

I have known strawberries, of very poor quality, sell for \$12 per bushel, blackberries by the case for 50 cts per quart, and whole crops of black raspberries for \$8 per bushel, net. But this was in war times when we had a high tariff and everybody had stamps. Since then, many ups and downs have occurred in this business, like all others.

Railroads, have stretched their long iron arms out into almost every part of the land, gathering up and distributing the products of one zone to the another, as though everybody was next door neighbor to everybody else. This equalizes production, and brings not only the necessities, but also the luxuries from all lands to the door of every well to do household. Small fruits are no longer a luxury, unless it is with some of our rural population who cannot find the time to give them care and culture. About everywhere they have become a household necessity; and not only in their season, but throughout the year, are found upon the sideboards of our wage laboring people as well as the rich; even the poor are not deprived of their use.

The culture of small fruits is no longer a bonanza. Like all articles of commerce, their value is regulated by quality, supply and demand. The question is no longer how can we grow them, so much as where can we find a market for them. Small fruits occur at least, when there is a general fall crop in the various fruit-growing sections. Some years the margin of profits was so low, that we could better afford to abandon our crops, than gather and ship them. In the early time of this industry here, our transportation was higher than now, but we were not blessed with the give-away package. We made our own packages, and had them returned, thus saving a very large expense to the shipper. But the commission men, who were taking their 10 per cent toll, besides the stealings incident to the business, complained of their great hardships, and by various means, the entire system of shipping was changed. I bought my first quart-box material, from Mr. Wilcox, and made the packages at home. This was the

first attempt at quart box manufacture in this section, as far as I know. This was some 16 or 18 years ago. The material was cut by hand, with the help, I think, of one man. The amount of timber, consumed by that establishment, was comparatively limited. Now, the country round about is being stripped of its little remaining saw and box timber, to supply the numerous establishments engaged in making these give-away fruit packages. Sooner or later, we will have no timber protection for our tender fruits, and the business will eat itself out, like the Kilkenny cats. Our manufacturers have struck a new key; they are now reaching south, where timber is plenty and cheap, cutting it, and shipping it north, in the flat, to be made up ready for use. When fruit is plenty and low, and these expenses all coming out of the business, as they necessarily must, the margin of profit to the grower runs low. To find a ready sale at good figures, our goods must have qualities to recommend itself to the buyer.

Only those who will grow good fruit, pack and ship with care, guarantee the quality of their goods, and use a good business management generally, can effect satisfactory results.

From the most meagre beginning, in less than twenty years the culture of small fruits in this locality assumed a most important commercial attitude, the shipments reaching as high as 14,000 half bushel cases in a single day.

Among the pioneer fruit-growers in this part of the county, allow me to mention the name of David Brown, who, I am told, shipped the first strawberries from this harbor to Chicago, in 1861, and a year or two later he shipped the first blackberries (Lawtons) to the same market; and he is still engaged in the same business. Among others may be named Samuel Jackson and A. C. Fish, who have long since crossed the dark river.

In pursuing commercial fruit-growing, the question ever occurs: What shall we grow? This question is far more difficult for the veteran than the beginner to answer. Our soil does not respond to our demands as it did 20 or 25 years ago, when we had a virgin soil and plenty of timber for winter and summer protection. Varieties too, seem to run out and have to be replaced by others; more vigorous, more hardy and better adapted to the wants of the day. Many varieties, that years ago proved entirely satisfactory and were profitable to grow, have since been discarded, some for one reason, some for another. None has stood the test longer than the old Wilson strawberry; and there are yet those who consider it, for all purposes, the best berry to grow. But other varieties are fast taking its place, and unless the difficulties (liability to leaf-rust, etc.) are overcome, it will sooner or later be entirely discarded as a commercial berry. For home use it will stay yet a good while. The Crescent is fast coming into general cultivation; being a good berry and exceedingly prolific will make it a favorite for years to come. There are many new varieties being introduced every year, with the most seductive names, the Sucker State for instance, Jumbo, Big Bob, and others with names perhaps equally felicitous. Perhaps one in a score or so of these new comers may prove a valuable acquisition.

Among raspberries the same rule holds true. The old Doolittle and Clark have gone; the Turner is going, or will go as soon as a substitute for it is found worthy in all respect to take the place of the good old Turner. Perhaps the Marlboro may, but so far it has proved a slow grower. The Culbert is to-day, in this county, the leading red raspberry, and well it deserves the reputation it has.

Among black caps, the Gregg, for late, has no peer. The Tyler, for early, gives equally good satisfaction.

Among blackberries we are more at sea. Our best varieties are somewhat tender, and must have winter protection to secure a crop one year with another. This department of horticulture is being eliminated to several localities, such as the Snyder, the Western Triumph and Taylor's Prolific, that need no winter protection in favorable localities. The Lawton, Kittatinny, Wilson and Early Harvest, especially the two latter, must be well protected in the winter to insure a crop. When thus protected they yield bountiful crops, and for home use I consider the Early Harvest the best of all blackberries. These are the leading varieties of these fruits, now in general cultivation in this county. Many new varieties are being tested, and sooner or later we may expect good results from some of these trials.

Rotting of Cherries and Plums.

It is generally well-known that a vast quantity of these two naturally perishable crops are destroyed by rot before they become ripe and are gathered, thus detracting heavily from the profits of their cultivation.

Yet probably there are but few growers, who lose a great quantity annually, who thoroughly understand how and why this takes place, and fewer still would take the trouble to ascertain the particulars of it. To be brief, it is caused by a fungus botanically known as *Oidium fructigenum*, together with some other interesting remarks by Professor Arthur, who writes: "The fungus consists of colorless and much branched and septated threads permeating the tissue of the fruit and causing it to turn brown and decay, the surface of the fruit changing to brown, more often a light brown, at the same time. When the fungus produces spores, which do not always take place at once, being largely controlled by the amount of moisture in the air, the surface of the fruit is covered with tufts, more or less distinct and about one-sixteenth inch high, of dirty white or gray pulverulent fruiting threads. The tufts are somewhat compact, but readily fall from the fruit when rubbed. On apples and similar fruit they are at first distinct and pustular, but soon coalesce and become continuous; on plums and cherries the tufts are generally larger and less regular. The fruiting threads consist of short sections, each a little more swollen at they approach the ends of the threads where the sections are elliptical. The sections when ripe are separated and form the spores. When well grown in moist air they are abundantly dichotomous. The branches grow at the extremities, giving rise to new spores until the full length and maturity is attained, then the end spores successively drop away. Although this is a common fungus and known almost

from the days of Linnæus, it does not seem to have been very carefully studied; generally authors are considerably at variance and very brief in their accounts of its habits. It is said by different writers to occur on the green, ripe or fallen fruit. Observations here show it to occur at all stages of the fruit's growth and decay. When the fruit is attacked before it is ripe, it usually remains hanging to the tree through the winter, even till fruit is ripe again, and spores of the fungus are to be found on it during the whole time. Recently a few spores from the dried remnant of a cherry, which had hung on the tree since the last fruiting time, were sown in water on a glass slide. They germinated within two hours by pushing out a vegetative thread from one end. This experiment was a number of times repeated, and the spores always grew with readiness. When the cherries ripen, the dried, mummified ones communicate the disease to those in contact with them and these to others, until the whole cluster is decayed. No remedy, better than turning swine into the orchard to devour the rotten fruit, is known.

Relative Hardiness of Grafted Trees.

Prof. J. L. Budd, in reply to the question asked by a correspondent of the *Prairie Farmer* whether top-grafted trees are harder than root-grafted ones, says:

This is a leading question which may be answered "yes" or "no." In our climate we have many varieties of the orchard fruits liable to injury of stem, or rupture of stock near the crown, which do not winterkill to any serious extent in the top. Such varieties worked on stocks of undoubted hardiness are often benefited, so far as increased longevity of tree is concerned; but we have much yet to learn in the way of special varieties to ensure fruitfulness, and the natural period for the maturing of fruit. To illustrate: Our common varieties, worked on Virginia Crab by Mr. Pluke, of Davenport, and others, seem to bear well and mature at nearly their natural season. On the other hand, our thousands of trees at the west, top-worked on Duchesse, have not as a rule behaved in a satisfactory way, as they bear very ripely, and late fall and winter sorts ripen prematurely.

The exceptions to this rule are so rare that I cannot think of one, and Director R. P. Spear—who has had long experience and is a critical observer—says he cannot think of a variety of the common list which bears well on the Duchesse stock. But this does not prove that we will not find stocks that will meet our wants, but it must be on the European plan of special stocks for special varieties and special soils. I often have inquiries in regard to the use of Whitney's No. 29 for a stock. Theoretically it does not promise all hoped for. Its wood is hard and crumbly and its fruit is early. On account of constriction of most sorts at point of union of stock and graft, we may expect fruitfulness, but that late sorts will mature prematurely. Such root-clads as Hibernial, Recumbent and Silken, with large, late fruit, will be promising for trial.

The "no" answer to the question is applicable to varieties such as Jonathan, Dominic and Fulton, and dozens of others, which over a large part of the west have killed back in the top. We have no reason to believe that such sorts will be materially benefited by top-working except in sections where they do reasonably well as root grafts.

The Plum Curculio.

At the joint meeting of the State Society and the West Michigan Fruit-Growers, J. N. Stearns detailed his plan of driving off curculio, which he said he had found highly successful, although President Lyon had objected to it on moral grounds, as being no better than driving pigs from your own crop into those of your neighbor. Mr. Stearns' method does not destroy curculio but drives them off most effectively. Begin in time—as soon as the bloom falls. Put one bushel of stone lime into a box and throw upon it one pint of crude carbolic acid (costs 75 cents per gallon) and then just enough water to make the lime to a powder. Let it stand 18 hours, that there may be no lime lumps left. Mount the box of powder upon a wagon, drive along the rows, and throw on the powder with a shingle paddle. Do it when the leaves are moist with dew or rain, and put it on until the tree appears thoroughly dusted. Renew as often as washed off by rain, until the curculio season is past. It is probably the odor of the acid that is offensive to the curculio, although it is well known that any dust is repulsive to them and the insect tribe in general. Use of this almost wholly prevents ravages on cherry, peach, and plum trees, as has been proved by repeated experiment.

Training and Pruning the Grape.

In our Marquette County Agricultural and Horticultural Society we have two successful grape-growers, one of whom is a close pruner and the other scarcely prunes at all. With these notable examples each giving advice directly contrary to the other, the members feel themselves at liberty to use either method of pruning indifferently, as suits their convenience. There is one point in grape culture, however, in which these authorities agree and that is in feeding the vines, and it would be well for every one who attempts to raise grapes to appreciate this most important consideration. Give the vines plenty of nourishment and they will pay you with good crops of fine grapes, whether they are trimmed close or not at all.

In our experience the farther the vines have been allowed to run the heavier has been the yield and the better the quality. This is especially true of the Concord. We are now utilizing several superlative shade trees as supports for a number of our vines, and in a few years expect to see bushels of fine fruit growing where heretofore there have been leaves only. As to training, the Kilmarnock system is quite popular in some localities. It is thus described:

The trellis consists of two wires on posts set at convenient distances; the lower wire, two and a half to three and a half feet from the ground, and the upper one four and a half to five and a half feet. The vines are grown with two main stems, or trunks, from near the ground. One of these is stopped at either wire, and two arms are trained along each wire. These are pruned to five or six buds each, and the shoots as they grow, are pinched during summer. This pinching, and the hanging down of the shoots as the fruit develops and increases in size and

weight, checks the flow of sap and tends to the formation of good, plump buds at the base of the shoots, which, when ripe, are termed "canes." The annual pruning thereafter consists in cutting off the entire arm, up to the cane nearest the trunk, bringing that cane around on the wire to take the place of the arm removed, and shortening it in five or six buds.—*Indiana Farmer*.

Cucumber and Squash Bugs.

There are not many kinds, but they are destructive and the little striped bug is difficult to manage. I follow the general custom of laying shingles on the ground among the vines, and early in the morning when the bugs are under the shingles, where they have taken shelter for the night, I clap the different shingles together, the bugs between, crushing the insects. The large squash bug I don't know what to do with. Hand picking is a disagreeable job and busy farmers have not much time for it. But the worst enemy of the vines is the little white maggot. After one gets into a vine the vine is lost, and the farmer knows nothing about it till the vine withers and dies. I read once of a man who put a handful of salt in the centre of a hill and had no trouble with the maggot. I tried it once without avail. I am going to try tobacco this year. One man had success in growing squashes who used it, sprinkling tobacco around each plant. Other speakers followed and testified to the same troubles. The parent of the little white maggot is the striped cucumber bug. Prevent the laying of the eggs and you will have no maggots. I never succeeded in raising squashes till I put chickens in among the hills. I set a coop containing the hen in the patch and let the chicks run about and they destroy every bug that comes near. The value of tobacco consists in that being in a pulverized form it can be applied around the young plants. The female will not lay her eggs where the obnoxious stuff is. As regards the large squash bugs, Paris green or other poisons taken into the digestive organs have no effect on them. These insects do not eat with a mouth like larvae, but have a proboscis or snout with which they penetrate the outer skin of the leaf and suck the inner fleshy or juicy substance of the leaf. Therefore something must be applied to the body of the insect which is best done by using pyrethrum, with the little blower sold by druggists. That, while harmless to all lung breathing creatures, is a deadly poison to all insects of the beetle kind, breathing as they do through pores in the skin.—*N. E. Farmer*.

FLORICULTURAL.

The *Horticultural Times* recommends the following remedy for mildew on chrysanthemums. Two pounds of sulphur and two pounds of unslaked lime in ten quarts of water; boil for twenty minutes. Use a wineglass full of this to two gallons of water, and syringe the plants with it three times a week.

Of the Campanulas, or Canterbury Bells, the *Horticultural Times* says: "These beautiful members of a handsome race of plants are essentially border plants. No amount of torturing with peg or string will make them bow down to one common level; but all who care for a rich floral display will prize the show they make from June to August; and I have had them in bloom later by not allowing them to seed. They are very free seeders, and if the seeds are not picked off they do not bloom a second time; but the seed pods may be picked off a large number of plants by devoting a few minutes to the work each day. The Canterbury Bells have been much improved of late years, and new colors of very delicate tints produced, distinct from what we remember in the far away past; and the blossoms too have been doubled, and the double flowers can be easily obtained from seeds."

EDGAR SANDERS says of the Lily of the valley in the *Prairie Farmer*: "This charming plant is perfectly hardy as far as the winter is concerned, but will sometimes start up so early in the spring, at the first glaze of the sun, that a late frost will now and then come along and blast all the flower buds. It does well in a partially shady place for home use, though of course the finest plants are obtained from the open ground. The same principle holds with this as with the common Dutch bulbs. It is not that they cannot be grown out of doors, but that the Hollanders have for a long time had a monopoly of growing this class of plants. They have the science of growing down to a fine point; have cheap labor, and are born to the business. In the case of the Lily of the valley, every plant has an incipient flower-bud enclosed in its folds. They are sold by the single plant and are designed to grow one single flower only. If these same plants after flowering, are turned into the open ground, they will grow freely enough, but rarely flower the first season, the second they will be well established."

A pretty hanging-basket can be made of an old wooden bowl. First paint it some dark color. Then get bits of bark and tack on, or cover it with bitternut or grape vine. Let these keep their naturally graceful shape, putting in a tack where they touch the bowl, as you send them about it. Varnish these, and let your plant twine in and out among the curves and crooks of the vine. Another style was made of sticks laid up in log-house fashion, with projecting corners. The sticks, from which no bark had been removed, were fastened securely with wires. After making, and before filling with soil, the entire structure had been nicely varnished. Then moss had been used to line it with, and earth supplied. The green of the moss, showing through between the brown of the sticks, made the design attractive without any plant. When a robust specimen of variegated ivy was added, and the dark green and white of the blotched leaves stood out against the darker background, the effect was fine. For small-rooted plants, like the Lobelia, the large comb-shells which can be procured so cheaply at present, are very pretty. Some persons seem to think that a hanging plant ought to flourish and make satisfactory growth in any thing, no matter how small the amount of earth it contained. A hanging plant must have plenty of nutriment in order to grow well, and you cannot

expect a good growth unless there is soil enough to furnish all the food the plant requires. If you cram the roots, you must expect the plant to show it. So don't put a plant in a tea-cup and expect it to become a perfect fountain of verdure. It will grow well until it becomes root-bound, and the soil is exhausted, and then it will sicken and probably die. To have a vigorous plant, get a pot to contain it that has plenty of room for its roots to grow and spread in.

The hydrangea with large heads of white flowers, now common in gardens, is an acquisition from Japan which has added much to the handsome appearance of our gardens in the late summer months. On vigorous plants it is not uncommon to find heads of flowers a foot in length, and on large bushes a hundred such panicles are not uncommon. This plant forms a beautiful object trained as a standard. A young plant is selected, and early in spring it is cut down almost to the ground. As the shoots sprout, all but the strongest are rubbed off, at stake four feet high is driven in, and to it the branch is tied as it grows. If the plant is strong it will make a growth of four feet by fall. When spring comes this should be cut off at the top and all the buds rubbed off the sides as they start to grow, leaving only those that push out from the topmost buds, when a pretty head will result. Many persons prefer to treat all their shrubs in the same way, that is grown to a single stem. It admits of having green grass in an unbroken stretch on a lawn, and a cleaner appearance is presented thereby. It is certain that aside from this reason many shrubs are rendered more attractive when on the single stem than when in the bush form.

Horticultural Items.

Don't plant onions on weedy soil. If you do you will repent on your hands and knees all summer.

PRESIDENT PHILLIPS, of the West Michigan Horticultural Society, believes that unchained ashes is the best fertilizer known for vineyards.

The orange-colored rust on the raspberry and blackberry bushes is a fungus which spreads rapidly and will soon ruin an entire plantation unless prompt measures are resorted to. The digging up and burning of all affected plants is the only known remedy.

E. H. SCOTT, of Ann Arbor, with the aid of one assistant, sprayed 1,700 trees in one day this season. This proves conclusively that no man who owns an orchard need give it over to the dominion of the codling moth. A little extra expense, a few hours' time, a little attention at the right time, will enable him to have fair, sound fruit.

On the Novato Rancho, Marin County, Cal., which contains 16,000 acres, there are 290 acres in vineyards and 250 in orchards. The apples, of which there are 22,000 trees, are sent to Australia, where they bring a high price. The apricot crop on 16 acres last year was 260,000 pounds, worth at 2½ cents per pound \$65,000, or over \$500 per acre.

During the season, Covent Garden Market in London, Eng., sells from six to eight tons of tomatoes daily, notwithstanding the fact that the bulk of the crop grown in England is grown under glass. Large quantities are imported from Spain, France and the Channel Islands. The tomato is a good traveler when well packed.

The frequency of the mowing of the lawn should be governed by the condition of the grass. In a hot dry time the lawn will be injured by cutting too close. If the late crab grass (*Panicum sanguinalis*) gets into the lawn, it should be mown as soon as it is tall enough to cut, and before it can produce seeds. Take advantage of a wet spell to pull up by the root docks and any other large weeds.

A PROMINENT and extensive fruit-grower of Genesee County, N. Y., has invented and quite satisfactorily used for two seasons in securing his apple crop an apparatus constructed of canvas, resembling somewhat that of an inverted umbrella, into which the fruit is shaken from the tree. And from an aperture in the smaller and lower part, it is deposited in a basket, to be carried away and assorted.

L. B. PIERCE says in the *Ohio Farmer*: "This year I had unusually hard luck in setting one of my strawberry patches. Six weeks after setting there were 1,200 vacancies out of 5,400 planted. I have not time to enter into the various reasons for this loss which is not unusual with me, as I seldom show above five per cent die, but will tell how we killed the vacancies. As soon as it became apparent that we should be obliged to replant partially, I had a thousand plants dug and planted in little trenches five or six inches apart, as close as they could be set together without doubling over each other. They were watered, particularly shaded, and left in this way nearly three weeks, when a rainy day came and two men were set to planting them. Each plant had a heavy mass of earth adhering to it kept in place by a multitude of white threads roots about an inch long that had started in every possible place from the original roots. The plants will hardly know they were moved."

Boils and pimples and other affections arising from impure blood may appear at this season, when the blood is heated. Hood's Sarsaparilla removes the cause of these troubles by purifying, vitalizing and enriching the blood, and at the same time it gives strength to the whole system.

Aparian.

Invention of the Honey Extractor.

The *Bees Journal* says: Major Von Hruschka, the inventor of the honey extractor, is dead. He died in Venice on May 11, 1888. This we glean from the *L'Apicoltore* for June, which is just received. Major Hruschka was a retired Austrian officer, and the invention of the honey extractor occurred in this way. His apary was in Italy, and one day when the Major, who was a most observing and critical bee-keeper, was in his apary, his little boy came there to him. The boy had a small tin pail tied to a string, which he was swinging, boy-like, around and around in the air, holding the end of the string in his hand. The indulgent father gave the youth a small piece of comb filled with honey, putting it into the little pail. The boy, after awhile, began to swing the pail again as

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before, with the honey in it. A few moments after, he became tired of that amusement, and put the pail down to talk to his father, who took it up, and, by chance, noticed that the honey had left the comb and settled down into the pail, leaving the comb perfectly clean that had been on the outside of the circle when the boy was swinging it around. The Major wondered at the circumstance, and, turning the comb over, bade the boy swing it again, when, to his great astonishment, the other side of the comb also became perfectly clean, all the honey being extracted and lying at the bottom of the pail.

During the following night Major Von Hruschka, after going to bed, commenced to think the circumstance over; he thought, and thought, and his thoughts troubled him so much that on the morrow he commenced a series of experiments which resulted in his giving to the world the first honey extractor, which, by whirling, something like his son whirled that little tin pail, gave him the pure liquid honey, extracted by centrifugal force, leaving the honey-comb entirely free from the liquid sweet, which he gave again to the bees to fill; allowing him the pure honey for making wine, mead and methglin, or honey cakes, as desired, without employing the troublesome and primitive method in use up to that time, of mashing up the combs containing the honey, pollen, and sometimes brood, too, to let the honey drain through the cloth in which it was placed—giving what was formerly known as "strained honey."

NEW ADVERTISEMENTS.

Home Evidence

No other preparation has won success at home equal to Hood's Sarsaparilla. In Lowell, Mass., where it is made, it is now, as it has been for years, the leading medicine for purifying the blood, and toning and strengthening the system. This "good name at home" is "a tower of strength abroad."

People to print all Lowell people have said in favor of Hood's Sarsaparilla. Mr. Albert Estes, living at 28 East Pine Street, Lowell, for 15 years employed as boss carpenter by J. W. Bennett, president of the Erie Telephone Company, had a large running sore come on his leg, which troubled him a year, when he began to take Hood's Sarsaparilla. The sore soon grew less in size, and in a short time disappeared.

Praise Hood's Sarsaparilla. Mrs. C. W. Marriott, wife of the First Assistant Fire Engineer of Lowell, says that for 16 years she was troubled with stomach disorder and sick headache, which nothing relieved. The attacks came on every fortnight, when she was obliged to take her bed, and was unable to endure any noise. She took Hood's Sarsaparilla, and after a time the attacks ceased entirely. Many more might be given had we room. On the recommendation of people of Lowell, who know us, we ask you to try

Hood's Sarsaparilla. Sold by all druggists. \$1; six for \$5. Prepared only by C. I. HOOD & CO., Apothecaries, Lowell, Mass.

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FORGE.

of the country than any Mormon bishop "sealed" in Salt Lake City, was arrested in Chicago and brought to this city the

of the country than any Mormon bishop ever released." In Salt Lake City, was arrested in Chicago and brought to this city the first of the week. He is probably the most unhappy married man in the country, there being 24 women who have a right to call him "bubby dear."

Just after the display of fireworks was begun at Saginaw, Mich., on the Fourth, a spark ignited the places not yet fired, and they went off in a great hurry, and three were killed and instantly killed, and Rita Goodwood hurt. In spite of the accident the exhibition was continued. At Chesaning a similar accident occurred, by which Maurice Palms was killed.

John and Henry Miller, of Dryden, LaPere County, are charged with stealing 152 fleeces of wool from Mr. Crowley, a near neighbor. The Millers took the wool to Columbiaville, North Branch and Mariette; at the latter place they sold 62 fleeces, and were arrested. They drove their horses 60 miles without water or food, and nearly killed them.

April he has seen more than one hundred miles of orange hedge from four to forty years old, in the three States of Michigan, Indiana and Illinois, and feels safe in saying not one mile in ten was a fence or ever would be a fence. He sums up as a conclusion: "Farm produce is too low for farmers to waste money in hedge companies."

ter dead water opposite Port Huron on the
nd, and one man, John Rend, of Corunna,
was scalded so terribly that he died in a few
ours; the fireman, John Thomas, of Bay
ity, cannot recover, and Robert Robertson,
also of Bay City, escaped with life, but was
adly scalded. The vessel was on her first
rip, and the cause of the accident is not
nown.

Lake City, the county seat of Missaukee

odily, was nearly wiped out of existence by an incendiary fire on the morning of the 5th. Almost the entire business portion was burned out, 19 business places and five dwellings being destroyed. The loss is \$70,000. By hard fighting the new jail and court-house were saved. The work of the incendiary was indicated by a pile of kindlings saturated with kerosene.

The "horrid wild man" who has terrorized

ne residents of Kimball township, St. Clair county, lately, so that naughty children have been scared into good behavior by threats of the "wild man," and timid mothers kept their little ones at home from school, was captured by a posse of twenty resolute farmers armed with the teeth, on the 3rd. And the terror was an offensive badger, which subsided to its toes, and was borne in triumph to Port Huron.

The event of the week in this city was, of course, the "Glorious Fourth," which was celebrated in an old-fashioned manner with a parade, speeches, brass bands, bannocome and crackcracks. Thousands came into town from the country, attracted by the promised fireworks, etc., and Belle Isle was covered with people, it being estimated that fully 10,000 visited the island during the day. The rest of the crowd was not taken off by the steamship.

the other \$2.5 m. The display of fireworks, which cost \$2,500, is criticised as wanting in variety, etc., and the "kick" results in the cutting down of the bill from \$2,500 to \$2,000. The goods were furnished by an English firm, and though "what's English, you know," is generally thought the best in the world by our folks, a good deal of comment was made about buying means to celebrate the anniversary of independence from the nation that assisted us.

General.

Philadelphia's Independence Day celebration cost the tidy sum of \$15,000. The Republican National Convention cost \$6,690. There is a deficit of \$700 which the faithful will have to make up.

grasshoppers, in swarms of unnumbered millions, are devastating Minnesota grain fields in the eastern part of the State.

General Harrison was formally notified of his nomination as the presidential candidate of the Republican party, on the 4th.

The public debt diminished by \$14,429,503 during the month of June; and the total debt now \$1,717,784,708. The cash in the treasury now \$1,000,000,000.

The Trojan war on a small scale is in progress at San Francisco. Opposing factions in the Chinese quarter are fighting to the death for the possession of a Chinese belle.

Soldiers of North and South met again upon the field of Gettysburg, this time with peace- and fraternal greetings, on the anniversary of the terrible fight of twenty-five years ago.

The 2nd of July was the big disbursement day of New York city. Seventy-seven million dollars were paid on securities of railroads and interest on State, municipal and government bonds.

Thirty miners in the Bellevue coal mine at Scranton, Pa., were caught by a cave-in in the 5th. Part of the town is built over the mines, and the streets sank several feet. The men were all rescued.

The machinery of the exposition at Cincinnati was started at noon on the Fourth by electricity. Mrs. James K. Polk, the oldest of widows of presidents, gave the signal by electricity from her home at Nashville.

George Jones, 12 years old, of Indianapolis, shaved an old tomato can with powder and with a fuse as a fuse attempted to explode it. The shaving burned out before he got away, and the explosion tore the top of his head off, killing him instantly.

At Cincinnati, Clara Williams, of good family and previous irreproachable character, was caught stealing goods from a millinery store. She confessed, and several days after her arrest, took chloroform, being unable to bear disgrace she had brought upon herself.

because he landed his dead wife, Jonathan Cook, of Valence, Orange Co., Ind., was taken from his house by 20 of the self-styled vigilantes known as White Caps, tied to a tree and given 150 lashes on his bare back. The beating was so severe the victim is not expected to recover.

small stream into which the sewer emptied. In some manner the gasoline was ignited, and two boys named Cullis, who were playing by the stream, were fatally burned.

over him and set fire to his saturated shoes. The couple had not lived happily together.

Belva Lockwood, the equal suffrage candidate for the presidency, proposes to take the stump in her own behalf and canvass every State. She went work for nothing and glory, and whoever hears her boom herself have to pay an admission fee. Belva has money the last time she made with the

The United States Illuminating Company of New York, being ordered to put its wires in sub-way conduits, has ceased to supply customers, who are thus left in comparative darkness. The company claims that as no way has been provided for running branch wires from the conduits to consumers, the order to put wires underground is virtually an

ar Casselton, Dak., lightning struck the
of a Norwegian named Olestad, killing
man and wife, leaving uninjured a babe
eight months. Twenty-four hours later
neighbors, noticing the deserted appear-
of the house, entered it, finding the dead
and the nearly starved infant. Ole-
's father and mother, who he had sent

[illegible]

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P. COOK, Brooklyn, Jackson Co., breeder of Shorthorn and Jersey families represented. Bull Major Craggs at head of herd. Choice young bulls for sale. Albany Jan-1y

ARTHUR ANDERSON, Monteth, Allamakee Co., breeder of Shorthorn cattle. Imported Jersey bull, 10 years old, for sale. Established Wild Eyes Connaught 34969 at head. Correspondence solicited. Jan-1y

BENJ. F. BATCHELER, Ocola Center, Livingston Co., breeder of Shorthorn of York and Jersey families. Jersey bull at head. The Revival Rose of Sharon bull. Sharon Duke at head. Bulls for sale. Jersey cows and heifers for sale. Also registered Merino sheep. Jan-1y

F. MOORE, St. Clair, breeder of Shorthorn and Jersey families. Families represented: Barrington Kirklingham, Victoria, Duchesne, Oxford Van Hook, and others. Bulls for sale. Herd and Kirklingham of Erie 4418. Grand Duke of Erie 6688 and Barrington 6418. Jan-1y

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